

Claims

1. A method of creating a binaural impression of sound from an imaginary source to a listener, such method comprising the steps of:

5 determining an acoustic matrix for an actual set of speakers at an actual location to the listener

determining an acoustic matrix for transmission of an acoustic signal from an apparent speaker location different from the actual location to the listener; and

10 solving for a transfer function to present the listener with a binaural audio signal creating an audio image of sound emanating from the apparent speaker location.

2. The method as in claim 1 further comprising the step of processing an input audio signal using the solved transfer function.

3. The method as in claim 2 further comprising the step of supplying the processed audio signal to the actual set of speakers.

4. The method as in claim 1 further comprising the step of solving for the transfer function under a lattice filter format.

5. The method as in claim 1 further comprising the step of solving for the transfer function under a shuffler filter format.

6. A method of reformatting a transaural signal for presentation to a listener, such method comprising the steps of:

5 receiving as an input a first set of spatially formatted audio signals intended to create binaural sound having a desired spatial impression through a desired speaker layout;

determining an actual speaker layout including a plurality of actual speakers;

calculating a transfer function for each input signal of the first set of spatially formatted audio signals to create the desired spatial impression through the actual speakers; and

5 processing the first set of spatially formatted audio signals using the calculated transfer functions to produce a second set of spatially formatted audio signals; and

10 creating binaural sound having the desired spatial impression for the benefit of the listener by applying the second set of spatially formatted audio signals to the plurality of actual speakers.

7. The method as in claim 6 further comprising removing cross-talk cancellation from the first set of spatially formatted audio signals to recover a stereo signal.

8. The method as in claim 6 wherein the step of receiving an input a first set of spatially formatted audio signals further comprises receiving a stereo audio signal.

9. The method as in claim 8 wherein the step of receiving a stereo audio signal further comprises receiving a right and a left channel.

10. A method of reformatting a transaural signal for presentation to a listener, such method comprising the steps of:

5 receiving as an input a first set of spatially formatted audio signals intended to create binaural sound having a desired spatial impression through a desired speaker layout;

determining an actual speaker layout including a plurality of actual speakers;

10 calculating a transfer function for each input signal of the first set of spatially formatted audio signals to create the desired spatial impression through the actual speakers; and

creating binaural sound having the desired spatial impression for the benefit of the listener by applying the second set of spatially formatted audio signals to the plurality of actual speakers.

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